

WHAT IS CLAIMED IS:

1. A security deciphering apparatus comprising:

a hidden secret key storing unit for storing a hidden secret key (K_h) corresponding to intrinsic identification information;

5 a first decoding unit for receiving via a public network a personal secret key ($\{K_s\}K_h$), generated by enciphering a cipher key (K_s) by using the hidden secret key (K_h), and decoding the personal secret key ($\{K_s\}K_h$) by using the hidden secret key (K_h), thereby obtaining the cipher key (K_s); and

10 a second decoding unit for receiving via the public network enciphered data ($\{M\}K_s$), generated by enciphering data (M) by using the cipher key (K_s), and decoding the enciphered data ($\{M\}K_s$) by using the cipher key (K_s), thereby obtaining the data (M).

2. The security deciphering apparatus according to claim 1, further comprising:

15 a personal secret key storing unit for storing the personal secret key ($\{K_s\}K_h$) received via the public network, and outputting the stored personal secret key ($\{K_s\}K_h$) to the first decoding unit under a control of the first decoding unit; and

a cipher key storing unit for storing the cipher key (K_s) obtained by the first decoding unit, and outputting the stored cipher key (K_s) to the second decoding unit under a control of the second decoding unit.

20 3. A data service providing apparatus for providing data requested by a communication terminal, comprising:

a data database for storing data (M) to be provided to the communication terminal;

a hidden secret key database for storing a hidden secret key (K_h) corresponding to

intrinsic identification information of a security deciphering module equipped in the communication terminal to decipher enciphered data;

a transmitting/receiving unit for performing communication with the communication terminal via a public network;

5 a data enciphering unit for enciphering the data (M) by using a cipher key (Ks);

a cipher key enciphering unit for enciphering the cipher key (Ks) by using the hidden secret key (Kh); and

a control unit for controlling the enciphering operations of the data and cipher key enciphering units, and controlling the transmitting/receiving unit to provide the
10 enciphered data ($\{M\}Ks$) and the personal secret key ($\{Ks\}Kh$) via the public network.

4. The data service providing apparatus according to claim 3, wherein the security deciphering module comprises:

a hidden secret key storing unit for storing the hidden secret key (Kh) corresponding to the intrinsic identification information of the security deciphering
15 module;

a first decoding unit for decoding the personal secret key ($\{Ks\}Kh$) provided by the transmitting/receiving unit, by using the hidden secret key (Kh), thereby obtaining the cipher key (Ks); and

a second decoding unit for decoding the enciphered data ($\{M\}Ks$) provided by the
20 transmitting/receiving unit, by using the cipher key (Ks), thereby obtaining the data (M).

5. The data service providing apparatus according to claim 4, wherein the security deciphering module further comprises:

a personal secret key storing unit for storing the personal secret key ($\{Ks\}Kh$) provided by the transmitting/receiving unit, and outputting the stored personal secret key

($\{K_s\}K_h$) to the first decoding unit under a control of the first decoding unit; and

a cipher key storing unit for storing the cipher key (K_s) obtained by the first decoding unit, and outputting the stored cipher key (K_s) to the second decoding unit under a control of the second decoding unit.

5 6. A security deciphering method comprising the steps of:

determining whether or not a personal secret key ($\{K_s\}K_h$), generated by enciphering a cipher key (K_s) by using a hidden secret key (K_h) corresponding to intrinsic identification information, is received;

10 if it is determined that the personal secret key ($\{K_s\}K_h$) is received, then decoding the received personal secret key ($\{K_s\}K_h$) by using the hidden secret key (K_h), thereby obtaining the cipher key (K_s);

determining whether or not enciphered data ($\{M\}K_s$), generated by enciphering data (M) requested to be transmitted by using the cipher key (K_s), is received; and

15 if it is determined that the enciphered data ($\{M\}K_s$) is received, then decoding the enciphered data ($\{M\}K_s$) by using the cipher key K_s , thereby obtaining the data (M).

7. A data service providing method for providing data requested by a communication terminal, comprising the steps of:

receiving via a public network a request for transmission of data (M) from the communication terminal;

20 enciphering the data (M) by using a cipher key (K_s) in response to the received data transmission request, thereby generating enciphered data ($\{M\}K_s$);

enciphering, in response to the received data transmission request, the cipher key (K_s) by using a hidden secret key (K_h) corresponding to intrinsic identification information assigned to a security enciphering module equipped in the communication

terminal to decode the enciphered data ($\{M\}K_s$), thereby generating personal secret key ($\{K_s\}K_h$); and

transmitting the enciphered data ($\{M\}K_s$) and the personal secret key ($\{K_s\}K_h$) to the communication terminal via the public network.

5 8. The data service providing method according to claim 7, wherein the security enciphering module equipped in the communication terminal comprises:

a hidden secret key storing unit for storing the hidden secret key (K_h) corresponding to the intrinsic identification information assigned to the security enciphering module;

10 a first decoding unit for decoding the personal secret key ($\{K_s\}K_h$) by using the hidden secret key (K_h), thereby obtaining the cipher key (K_s); and

a second decoding unit for decoding the enciphered data ($\{M\}K_s$) by using the obtained cipher key (K_s), thereby obtaining the data (M).

15 9. The data service providing method according to claim 8, wherein the security deciphering module further comprises:

a personal secret key storing unit for storing the personal secret key ($\{K_s\}K_h$) received by the communication terminal via the public network, and outputting the stored personal secret key ($\{K_s\}K_h$) to the first decoding unit under a control of the first decoding unit; and

20 a cipher key storing unit for storing the cipher key (K_s) obtained by the first decoding unit, and outputting the stored cipher key (K_s) to the second decoding unit under a control of the second decoding unit.

10. In a mobile communication terminal receiving, via a public network,

enciphered data ($\{M\}K_s$) generated by enciphering data (M) by using a cipher key (K_s), a security deciphering apparatus comprising:

a hidden secret key storing unit for storing a hidden secret key (K_h) corresponding to intrinsic identification information assigned to the mobile communication terminal;

5 a first decoding unit for receiving a personal secret key ($\{K_s\}K_h$), generated by enciphering a cipher key (K_s) by using the hidden secret key (K_h), and decoding the personal secret key ($\{K_s\}K_h$) by using the hidden secret key (K_h), thereby obtaining the cipher key (K_s); and

10 a second decoding unit for decoding the enciphered data ($\{M\}K_s$) by using the cipher key (K_s), thereby obtaining the data (M).